WHAT IS CLAIMED IS:

1. A surface emitting semiconductor laser comprising:

a semiconductor substrate;

a first semiconductor multilayer reflection film of a first conduction type on the semiconductor substrate;

a second semiconductor multilayer reflection film of a second conduction type;

an active region and a current confining layer interposed between the first and second semiconductor multilayer reflection films; and

a low-resistance layer interposed between the current confining layer and the active region.

2. The surface emitting semiconductor laser as claimed in claim 1, wherein:

the active region comprises an active layer and a spacer layer in which the active layer is provided; and

the low-resistance layer is provided between the current confining layer and the spacer layer.

3. The surface emitting semiconductor laser as claimed in claim 1, wherein:

the low-resistance layer comprises $Al_xGa_{1-x}As$;

the second semiconductor multilayer reflection film comprises $Al_aGa_{1-a}As$ and $Al_bGa_{1-b}As$; and

composition ratios a, b and x meet a > x > b.

4. The surface emitting semiconductor laser as claimed in claim 1, wherein:

the spacer layer comprises $Al_cGa_{1-c}As$; and

composition ratios a, b, c and x meet a > x > b and x > c.

5. The surface emitting semiconductor laser as claimed in claim 1, wherein a product of d1 and n1 or a sum of a product d1 and n1 and a product of d2 and n2 is approximately equal to a quarter of λ where d1 and n1 respectively denote a thickness and a refractive index of the low-resistance layer, d2 and n2 respectively denote a thickness and a refractive index of the central conductive region of the current confining layer, and λ is a wavelength of laser light emitted.

6. The surface emitting semiconductor laser as claimed in claim 1, wherein the low-resistance layer has a carrier density higher than that of the second semiconductor multilayer reflection film.

7. The surface emitting semiconductor laser as claimed in claim 1, wherein the low-resistance layer comprises a laminate of semiconductor layers.

8. A surface emitting semiconductor laser

comprising:

a semiconductor substrate;

a first semiconductor multilayer reflection film of a first conduction type on the semiconductor substrate;

a second semiconductor multilayer reflection film of a second conduction type;

an active region disposed between the first and second semiconductor multilayer reflection films;

a current confining layer in the second semiconductor multilayer reflection film; and

a low-resistance layer interposed between the current confining layer and the active region.

9. The surface emitting semiconductor laser as claimed in claim 8, wherein:

the active region comprises an active layer and a spacer layer in which the active layer is provided; and

the low-resistance layer is provided between the current confining layer and the spacer layer.

10. The surface emitting semiconductor laser as claimed in claim 8, wherein:

the low-resistance layer comprises $Al_xGa_{1-x}As$;

the second semiconductor multilayer reflection film comprises $Al_aGa_{1-a}As$ and $Al_bGa_{1-b}As$; and

composition ratios a, b and x meet $a > x > b$.

11. The surface emitting semiconductor laser as claimed in claim 8, wherein:

the spacer layer comprises $Al_cGa_{1-c}As$; and

composition ratios a, b, c and x meet a > x > b and x > c.

12. The surface emitting semiconductor laser as claimed in claim 8, wherein a product of d1 and n1 or a sum of a product d1 and n1 and a product of d2 and n2 is approximately equal to a quarter of λ where d1 and n1 respectively denote a thickness and a refractive index of the low-resistance layer, d2 and n2 respectively denote a thickness and a refractive index of the central conductive region of the current confining layer, and λ is a wavelength of laser light emitted.

13. The surface emitting semiconductor laser as claimed in claim 8, wherein the low-resistance layer has a carrier density higher than that of the second semiconductor multilayer reflection film.

14. The surface emitting semiconductor laser as claimed in claim 8, wherein the low-resistance layer comprises a laminate of semiconductor layers.

15. A surface emitting semiconductor laser comprising:

a semiconductor substrate;

a first semiconductor multilayer reflection film of a first conduction type;

an active region;

a current confining layer formed by oxidizing a part of a high-Al-composition-ratio layer having at least single layer;

a second semiconductor multilayer reflection film of a second conduction type; and

a low-resistance layer provided in the vicinity of the current confining layer and comprising $Al_xGa_{1-x}As$,

the second semiconductor multilayer reflection film comprising $Al_aGa_{1-a}As$ and $Al_bGa_{1-b}As$,

composition ratios a, b and x meet $a > x > b$.

16. The surface emitting semiconductor laser as claimed in claim 15, wherein the low-resistance layer is provided so that the current confining layer is provided therein.

17. A method of fabricating a surface emitting semiconductor laser comprising the steps of:

forming a semiconductor laminate on a semiconductor substrate, the semiconductor laminate including a first semiconductor multilayer reflection film of a first conduction type, an active region, a low-resistance layer, a high-Al-composition-ratio semiconductor layer containing a high Al composition ratio, and a second semiconductor

multilayer reflection film of a second conduction type;

etching the semiconductor laminate so that a mesa structure is formed on the semiconductor substrate; and

forming a current confining layer by oxidizing a part of the high-Al-composition-ratio layer from a side surface of the mesa structure to thus form a current confining layer.

18. The method as claimed in claim 17, wherein the low-resistance layer comprises $Al_xGa_{1-x}As$;

the second semiconductor multilayer reflection film comprises $Al_aGa_{1-a}As$ and $Al_bGa_{1-b}As$; and

composition ratios a, b and x meet $a > x > b$.

19. The method as claimed in claim 18, wherein

the active region comprises spacer layers between which an active layer is sandwiched;

the spacer layers comprise $Al_cGa_{1-c}As$; and

composition ratios a, b, c and x meet $a > x > b$ and $x > c$.

20. A method of fabricating a surface emitting semiconductor laser comprising the steps of:

forming a semiconductor laminate on a semiconductor substrate, the semiconductor laminate including a first semiconductor multilayer reflection film of a first conduction type, an active region, a high-Al-composition-ratio semiconductor layer containing a high Al composition ratio,

low-resistance layers between which the high-Al-composition-ratio semiconductor layer is sandwiched, and a second semiconductor multilayer reflection film of a second conduction type;

etching the semiconductor laminate so that a mesa structure is formed on the semiconductor substrate; and

forming a current confining layer by oxidizing a part of the high-Al-composition-ratio layer from a side surface of the mesa structure to thus form a current confining layer.

21. The method as claimed in claim 20, wherein the low-resistance layer comprises $Al_xGa_{1-x}As$;

the second semiconductor multilayer reflection film comprises $Al_aGa_{1-a}As$ and $Al_bGa_{1-b}As$; and

composition ratios a, b and x meet $a > x > b$.

22. The method as claimed in claim 21, wherein

the active region comprises spacer layers between which an active layer is sandwiched;

the spacer layers comprise $Al_cGa_{1-c}As$; and

composition ratios a, b, c and x meet $a > x > b$ and $x > c$.